

Star.	α 1883'o.	δ 1883'o.	Authority.
	^h ^m ^s	[°] ['] ["]	
34	17 42 2'36	+ 50 5 29'1	O. Arg. N.
35	17 40 50'62	50 6 13'7	"
36	17 40 34'25	49 55 50'8	"
37	17 43 35'02	49 47 6'9	"
38	17 48 54'51	49 18 8'0	"
39	17 53 38'09	49 9 54'4	Bonn
40	18 19 2'06	47 30 31'0	O. Arg. N.
41	18 23 49'77	47 17 50'2	"
42	18 34 45'80	46 42 24'6	"

Comparison of Observations with Ephemeris.

Date.	Obs.—Comp.		Date.	Obs.—Comp.		Date.	Obs.—Comp.	
	$\Delta\alpha$	$\Delta\delta$		$\Delta\alpha$	$\Delta\delta$		$\Delta\alpha$	$\Delta\delta$
	^s	"		^s	"		^s	"
Nov. 1	−0'06	+20'0	Nov. 12	+1'60	+13'6	Nov. 17	+2'62	+14'7
" 1	+0'26	+19'8	" 14	+2'76	+16'7	" 18	+2'82	+25'9
" 3	+0'26	+11'4	" 14	+1'14	+16'1	" 19	+2'58	+18'7
" 4	+0'73	+26'9	" 14	+2'75	+24'5	" 19	+2'16	+17'9
" 5	+0'94	+27'5	" 15	+1'90	+13'4	" 27	+4'11	+ 9'4
" 9	+0'96	+14'8	" 15	+3'72	+28'8	" 27	+3'72	+15'3
" 9	+1'48	+17'6	" 15	+3'15	+15'4	" 27	+4'57	+ 6'6
" 10	+1'20	+12'6	" 15	+2'43	+20'7	" 28	+4'03	+15'6
" 12	+0'32	+24'1	" 16	+0'61	+16'4	" 30	+5'57	+ 9'3
" 12	+0'60	+12'0	" 16	+2'39	+23'6			

Unfavourable weather prevented the comet being seen before Sept. 23. On that evening I was surprised at its brightness, as it had been described as a faint object. The light was a bright yellow, without showing any decided nucleus. On the 24th the appearance was much the same as on the previous evening. On the 25th it was not seen. On the 26th its appearance had changed in a most marked manner. It was much fainter, and the light had lost its yellow colour.

Observations of Comet b, 1883 (*Pons-Brooks*), made at the Royal Observatory, Greenwich.

(Communicated by the Astronomer Royal.)

The observations were made with the East or Sheepshanks Equatorial (aperture 6·7 inches) by taking transits over two cross-wires at right angles to each other, and each inclined 45° to the parallel of declination.

Dec. 1883.

Comet *b*, 1883 (*Pons-Brooks*).

61

Gr. Mean Solar Time. 1883, Nov.	$\delta - *$ R.A.	Corr. for Par. and Refrac. in R.A.	$\delta - *$ N.P.D.	Corr. for Par. and Refrac. in N.P.D.	No. of Comp.	App. R.A.	App. N.P.D.
--	----------------------	---	------------------------	---	--------------------	-----------	-------------

Observer: AD.

d	h	m	m	s	s	'	"	"	2	h	m	s	°	'	"
10	6	52	+3	4.61	+0.36	-11	2.0	-2.2	2	17	24	37.61	39	0	48.8a
	7	1	-1	31.12	+0.38	-0	21.0	-2.1	2	17	24	38.01	39	1	3.4b

Observer: T.

17	7	7	+0	52.69	+0.39	-6	30.4	-2.5	5	17	43	55.43	40	19	54.6c
	7	5	-0	22.86	+0.39	+	7	1.8	-2.4	2					d

Observer: H.

19	6	58	+1	13.66	+0.41	+	1	32.7	-2.6	1	17	50	7.95	40	43	6.2e
	9	10	+1	29.65	+0.40	+	2	15.9	-4.4	6	17	50	23.94	40	43	49.4e
	9	16	-3	14.86	+0.39	-	5	52.4	-4.2	3	17	50	23.06	40	43	53.8

Observer: T.

27	5	56	+0	16.30	+0.40	-	2	47.3	-2.3	5	18	18	17.38	42	25	39.9g
	6	8	-0	42.35	+0.43	-	2	39.9	-2.5	9	18	18	18.16	42	26	38.7h

Assumed Mean Places of the Comparison Stars.

Star.	Star's Name.	R.A. 1883.0.	N.P.D. 1883.0.	Authority.
		h m s	° ' "	
<i>a</i>	Lalande 31840	17 21 33.44	39 12 6.2	Lalande
<i>b</i>	Arg. Z. + 50° - 2412	17 26 9.55	39 1 40.6	Bonn. Obs., vol. v.
<i>c</i>	Arg. Z. + 49° - 2689	17 43 3.02	40 26 41.7	"
<i>d</i>	Anonymous			
<i>e</i>	Oeltz. Arg. (N) 17595	17 48 54.55	40 41 50.6	Oeltz. Arg. (N) 1842
<i>f</i>	Arg. Z. + 49° - 2714	17 53 38.13	40 50 4.0	Bonn Obs., vol. v.
<i>g</i>	Arg. Z. + 47° - 2621	18 18 1.08	42 28 46.3	"
<i>h</i>	Arg. Z. + 47° - 2625	18 19 0.50	42 29 37.8	"

Nov. 10. The comet very faint; bright moonlight. The star *a* of the 8th—9th mag.; *b* of the 9th magnitude.

Nov. 17. Comet faint and diffused.

Nov. 27. Comet very faint and diffused.

The observations are corrected for parallax and refraction.

The initials AD., T., and H. are those of Mr. Downing, Mr. Thackeray, and Mr. Hollis.

Royal Observatory, Greenwich:

1883, Dec. 14.

On the Spectrum of Comet b 1883 (Pons-Brooks), observed at the Royal Observatory, Greenwich.

(Communicated by the Astronomer Royal.)

The spectrum of this comet has been examined by Mr. Maunder on the nights of Nov. 27 and Dec. 6 with the "half-prism" spectroscope mounted on the Great Equatorial. The spectroscope was used in the "reversed" position, as in the observations of prominences, so as to give great purity of spectrum. The dispersion from A to H in this position is 5° , and the magnifying power employed was 14.

On Nov. 27 the observations were much interrupted by the passage of light cloud, and no measures were obtained. The spectrum consisted of the three usual cometary bands, with edges bright and sharp towards the red, and fading gradually away towards the blue. No continuous spectrum could be certainly made out, though the band in the yellow, which was very faint, could be traced nearly up to the sharp edge of the band in the green, and that again could be traced very nearly up to the sharp edge of the band in the blue. The bands in the red and violet were not looked for. The band in the green was fairly bright, and the edge towards the red sharp and well defined. The band in the blue was much fainter, and its less refrangible edge not so well defined as that of the band in the green. The band in the yellow was fainter even than that in the blue.

As seen in the finder, the comet appeared nearly circular, about $4'$ or $5'$ in diameter; it showed a central condensation of stellar appearance, and a faint prolongation of the comet at about 20° position-angle seemed to indicate the commencement of a tail.

On Dec. 6 the comet was decidedly brighter than on Nov. 27, but its appearance as seen in the finder had not undergone any material change. The spectrum, however, seemed somewhat different. There was a very distinct continuous spectrum about $1''$ in breadth, and a fainter continuous spectrum was suspected to extend for $25''$ or $30''$ on both sides of this bright central spectrum. The band in the green was traced for a total length of $4'$, and probably extended further still. The band in the yellow was traced for a total length of about $2'$ or $2' 10''$; the band in the blue for about $70''$ or $80''$. The band in the yellow was now very much brighter than that in the blue; the intensities of the three bands being roughly estimated as follows:—Yellow band 5. Green band 10. Blue band 1. The red and violet bands were not looked for. The less refrangible edges of all three bands were very sharp and well defined.

The following measures were obtained of the sharp edge of the green band of the comet spectrum as compared with the